

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Mauro A. Giacomello

Examiner: Gami, Tejal

Application No.: 10/527,035

Group Art Unit: 2121

Filing Date: 03/08/2005

DOCKET NO. FR920020015US1

Title: A DATA PROCESSING SYSTEM ADAPTED TO INTEGRATING NON-HOMOGENEOUS PROCESSES

Commissioner for Patents
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BRIEF OF APPELLANT

This Appeal Brief, pursuant to the Notice of Appeal filed November 12, 2007, is an appeal from the rejection of the Examiner in the Office Action dated August 10, 2007.

REAL PARTY IN INTEREST

International Business Machines, Inc. is the real party in interest.

RELATED APPEALS AND INTERFERENCES

None.

STATUS OF CLAIMS

Claims 25 and 37 are rejected. Claims 1-24 and 26-36 are cancelled. This Brief is in support of an appeal from the rejection of claims 25 and 37.

STATUS OF AMENDMENTS

There are no After-Final Amendments which have not been entered.

SUMMARY OF CLAIMED SUBJECT MATTER

A. CLAIM 25 - INDEPENDENT

The present invention provides a data processing method for managing transactions. See FIG. 1; specification, page 4, lines 3-10.

At least one resource manager (RM) is provided for managing changes to respective system resources of a data processing system. See specification, page 5, lines 16-24.

A resource manager coordinator (RMC) is provided for coordinating commit-backout activities of the at least one resource manager, said resource manager coordinator (RMC) being hosted by the data processing system. See specification FIG. 1; page 6, line 24 - page 7, line 2.

The data processing system receives a business service request from a remote computer system to perform a task (see specification, page 4, lines 11-20). The task comprises both compliant processes complying with a commit/backout protocol and non-compliant processes not complying with a commit/backout protocol (see specification, page 6, lines 3-23). The compliant processes run on the data processing system and the non-compliant processes run on a counterpart processing system that is coupled to the data processing system by a labile link (see FIG. 1; specification, page 9, lines 21-25).

At least one extended resource manager (ERM) comprised by the data processing system is provided for managing an execution and compensation of the task (see FIG. 1; specification,

page 8, lines 1-5, 18-21). The resource manager coordinator (RMC) is adapted to coordinate compensation services of the at least one extended resource manager (ERM) (see specification, page 34, lines 14-22).

The at least one extended resource manager (ERM) determines, upon receipt of a backout request resulting from the execution of the compliant processes running on the data processing system and the non-compliant processes running on the counterpart processing system, compensation actions to transform the system resources into a mutually consistent state that differs from an initially consistent state of the system resources that existed prior to the execution of the non-compliant processes. Changes to the system resources resulting from the execution of the non-compliant processes transform the system resources into a mutually inconsistent state and the changes to the system resources resulting from the execution of the non-compliant processes cannot be backed out to transform the system resources from the mutually inconsistent state to the initially consistent state due to the labile link and associated communication problems between the data processing system and the counterpart processing system. See specification, page 9, lines 13-30; page 12, lines 10-16.

An information recording service records information concerning the compensation actions performed during the execution of the non-compliant processes. See specification, page 8, lines 13-18, 24-28.

The extended resource manager (ERM) determines the compensation actions on the basis of the information recorded by the information recording service. See specification, page 28, lines 4-16.

Changes to the system resources resulting from execution of the compliant processes are

backed out before performing the compensation actions, resulting in generation of misaligned logically-correlated data associated with the task. See specification, page 11, line 36 - page 12, line 10.

After completion of said backing out and before performing the compensation actions, the misaligned logically-correlated data public are rendered to other tasks. The compensation actions are performed after the temporarily misaligned logically-correlated data are public to other tasks. See specification, page 11, lines 5-13.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 25 and 37 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Freund et al. (U.S. Patent Number 5,768,587).

ARGUMENT

GROUND OF REJECTION 1

Claims 25 and 37 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Freund et al. (U.S. Patent Number 5,768,587).

Appellant respectfully contends that Freund does not anticipate claim 25, because Freund does not teach each and every feature of claim 25.

As a first example of why Freund does not anticipate claim 25, Freund does not teach the feature: “said compliant processes running on the data processing system and said non-compliant processes running on a counterpart processing system that is coupled to the data processing system by a labile link” (emphasis added).

The Examiner alleges that Freund, col. 4, lines 1-16 teaches the preceding feature of claim 25.

In response, Appellant notes that Freund, col. 4, lines 1-16 recites: “the first transaction being managed by a first transaction manager, the protocols of said first transaction manager not being compliant with those of the resource manager, the system further including a second transaction manager, whose protocols are compliant with those of the resource manager”.

Based on the Examiner’s preceding citation of Freund, col. 4, lines 1-16, the issues are:

- (1) whether the first and second transaction managers are each in different data processing systems (i.e., in the claimed “data processing system” and “counterpart processing system”; and
- (2) whether the two data processing systems are coupled to each other by a labile link.

Appellant cites Freund FIG. 2 which depicts the first and second transaction managers as

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embodied in the X/Open-Compliant Transaction Manager 115 and the DTC Transaction Manager 145, which coupled to each other by the DTC interface 260. See Freund, col. 7, lines 48-53 ("The X/Open-Compliant Transaction Manager 115 then passes the ax.sub.-- reg() registration call to the Mapper 248 which converts the call to a IResourceManager::Enlist call from the DTC interface. The Mapper 248 then passes the call to the DTC Transaction Manager 145 by means of the DTC interface 260").

As to issue (1), Appellant notes that both X/Open-Compliant Transaction Manager 115 and the DTC Transaction Manager 145 exist within the same data processing system 200 in Freund, FIG. 2. Thus, X/Open-Compliant Transaction Manager 115 and the DTC Transaction Manager 145 do not exist in separate systems of a data processing system and a counterpart data processing system, as required by the preceding feature of claim 25.

As to issue (2), Freund does not teach that the DTC interface 260 is a labile link, as required by the preceding feature of claim 25.

Therefore, Freund does not anticipate claim 25.

As a second example of why Freund does not anticipate claim 25, Freund does not teach the feature: "determining by the at least one extended resource manager (ERM), upon receipt of a backout request resulting from the execution of the compliant processes running on the data processing system and the non-compliant processes running on the counterpart processing system, compensation actions to transform the system resources into a mutually consistent state that differs from an initially consistent state of the system resources that existed prior to the execution of the non-compliant processes" (emphasis added).

The Examiner alleges that Freund, col. 6, lines 1-11 teaches the preceding feature of claim 25.

In response, Appellant notes that Freund, col. 6, lines 1-11 recites: “An overview of a transaction executing in the system of FIG. 2 will now be given. The Application Program 190 initiates a transaction which is managed by the DTC Transaction Manager 145. The transaction uses resources which are managed by the Resource Managers 120, 130. The Application Program 190 asks the DTC Transaction Manager 145 to complete the transaction. The DTC Transaction Manager 145 ensures that the resources involved in the transaction are in a consistent state and terminates the transaction, indicating to the Application Program 190 whether the transaction was committed or rolled back” (emphasis added).

The preceding quote from Freund, col. 6, lines 1-11 demonstrates that either a commit (if all processes are compliant) or a roll back (if at least one process is non-compliant) must result from any transaction in Freund. In fact, the entire disclosure of Freund makes it clear that the only two possible results from a transaction are a commit and a roll back, and that a roll back is performed in response to a non-compliant process in performance of the transaction.

However, Freund, col. 1, lines 55-58 recites: “Commit causes the resources to be updated while roll-back causes all work to be discarded returning the resources **to the state they were in upon transaction initiation.**”

Thus, Freund does not teach “compensation actions to transform the system resources into a mutually consistent state **that differs from** an initially consistent state of the system resources that existed prior to the execution of the non-compliant processes” as required by claim 25, since a roll back transforms the system resources into **the state that existed upon**

transaction initiation (as demonstrated by the preceding quote from Freund, col. 1, lines 55-58).

Therefore, Freund does not anticipate claim 25.

As a third example of why Freund does not anticipate claim 25, Freund does not teach the feature: “determining by the at least one **extended resource manager (ERM)**, upon receipt of a backout request resulting from the execution of the compliant processes running on the data processing system and the non-compliant processes running on the counterpart processing system, compensation actions to transform the system resources into a mutually consistent state that differs from an initially consistent state of the system resources that existed prior to the execution of the non-compliant processes” (emphasis added).

The Examiner alleges that Freund, col. 6, lines 1-11 teaches the preceding feature of claim 25.

In response, Appellant notes that the preceding feature of claim 25 requires the extended resource manager (ERM) to receive the backout request resulting from execution of the compliant processes and to determine the recited compensation actions. The Examiner alleges that the Application Program represents the extended resource manager (ERM) (see office action, page 3, lines 17-18). However, the Examiner’s citation of Freund, col. 6, lines 1-11 does not teach that the Application Program receives the backout request resulting from execution of the non-compliant processes (as required by claim 25), but rather teaches that the Application Program asks the DTC Transaction Manager 145 to complete the transaction (i.e., the Application Program asks the DTC Transaction Manager 145 to perform the backout request in response to a non-compliant process).

Therefore, Freund does not anticipate claim 25.

As a fourth example of why Freund does not anticipate claim 25, Freund does not teach the feature: “wherein the changes to the system resources resulting from the execution of the non-compliant processes **cannot be backed out** to transform the system resources from the mutually inconsistent state to the initially consistent state due to the labile link and associated communication problems between the data processing system and the counterpart processing system”.

The Examiner alleges that Freund’s abstract teaches the preceding feature of claim 25.

In response, Appellant asserts that Freund’s abstract does not teach that “the changes to the system resources resulting from the execution of the non-compliant processes **cannot be backed out** to transform the system resources from the mutually inconsistent state to the initially consistent state”.

In further response, Appellant asserts that Freund does not anywhere teach that “the changes to the system resources resulting from the execution of the non-compliant processes **cannot be backed out** to transform the system resources from the mutually inconsistent state to the initially consistent state”.

To the contrary, Freund, col. 12, lines 7-13 teaches: “If either the X/Open-Compatible Resource Manager 120 or the OLE Resource Manager 130 or any other participants in the transaction have indicated that they cannot commit, or if any of the participants fails to respond, the X/Open-Compatible Transaction Manager 145 **causes the changes to be rolled back in each of the resource managers**” (emphasis added). Similarly, see Freund, col. 12, lines 34-36.

Therefore, Freund does not anticipate claim 25.

As a fifth example of why Freund does not anticipate claim 25, Freund does not teach the feature of a first step of recording information and a second step of determining the compensation actions.

wherein the first step of recording information is recited in claim 25 as follows:

“recording information, by an information recording service, concerning the compensation actions performed during the execution of the non-compliant processes”; and

wherein the second step of determining the compensation actions is recited in claim 25 as follows: **“determining ... the compensation actions on the basis of the information recorded by the information recording service”** (emphasis added).

The Examiner argues that Freund, col. 12, lines 34-53 teaches the first step of recording information, and that Freund, col. 12, lines 6-15 teaches the second step of determining the compensation actions.

In response, Appellant notes that Freund, col. 12, lines 34-53 teaches recording information in rollback records. However, Freund, col. 12, lines 6-15 does not teach the second step of determining the compensation actions on the basis of the information recorded in the rollback records described in Freund, col. 12, lines 34-53, as required by the preceding feature of claim 25.

Therefore, Freund does not anticipate claim 25.

As a sixth example of why Freund does not anticipate claim 25, Freund does not teach the

feature: “backing out the changes to the system resources resulting from execution of the compliant processes **before performing the compensation actions**, resulting in generation of misaligned logically-correlated data associated with the task” (emphasis added). Appellant notes that the compensation actions serve to compensate for the non-compliant processes, as recited in the step of determining compensation actions in claim 25 which was discussed *supra*.

The Examiner alleges that Freund, col. 12, lines 34-53 teaches the preceding feature of claim 25.

In response, Appellant next describes the logic of Freund, FIG. 6, a portion of which relates to the Examiner’s citation of Freund, col. 12, lines 34-53.

Step 610 of Freund, FIG. 6 determines whether the outcome of the transaction is commit or roll back, as described in Freund, col. 12, lines 6-16. The commit result from compliant processes and the roll back results from non-compliant processes, as explained *supra*.

If step 610 determines that the outcome of the transaction is commit, then the commit is performed by steps 612, 614, 616, 618, 620, 622 as described in Freund, col. 12, lines 17-33.

If step 610 determines that the outcome of the transaction is roll back, then the roll back is performed by steps 630, 632, 634, 636, 638, 640 as described in Freund, col. 12, lines 34-53.

Freund does not teach that the commit (steps 612, 614, 616, 618, 620, 622) is performed **before** the roll back (steps 630, 632, 634, 636, 638, 640), as required by the preceding feature of claim 25.

Therefore, Freund does not anticipate claim 25.

As a sixth example of why Freund does not anticipate claim 25, Freund does not teach the

feature: "after completion of said backing out and before performing the compensation actions, rendering the misaligned logically-correlated data public to other tasks".

The Examiner alleges that Freund, col. 12, lines 34-53 teaches the preceding feature of claim 25.

In response, Appellant notes that Freund, col. 12, lines 34-53 teaches recording information in rollback records. However, Freund, col. 12, lines 34-53 does not teach specifically what information is recorded in the rollback records. Therefore, Freund, col. 12, lines 34-53 does not teach that the misaligned logically-correlated data is recorded in the rollback records. Moreover, Freund, col. 12, lines 34-53 does not teach that the rollback records are rendered public to other tasks.

Therefore, Freund does not anticipate claim 25.

As a seventh example of why Freund does not anticipate claim 25, Freund does not teach the feature: "performing the compensation actions **after** said rendering the temporarily misaligned logically-correlated data public to other tasks" (emphasis added).

The Examiner alleges that Freund, col. 12, lines 34-53 teaches the preceding feature of claim 25.

As explained *supra* in conjunction with the sixth example, Freund, col. 12, lines 34-53 does not teach rendering the temporarily misaligned logically-correlated data public to other tasks, and therefore cannot teach performing the compensation actions after said rendering.

Therefore, Freund does not anticipate claim 25.

Based on the preceding arguments, Appellant respectfully maintains that Freund does not anticipate claim 25, and that claim 25 is in condition for allowance. Since claim 37 depends from claim 25, Appellant respectfully maintains that claim 37 is likewise in condition for allowance.

In addition with respect to claim 37, Freund does not teach the feature: “wherein the data processing system is a front-end server of a banking system, wherein the remote computer comprises a bank ATM from which the business service request is received by the data processing system, and wherein the counterpart processing system is a server in a banking agency”.

The Examiner argues: “**As to dependent claim 37**, Freund teaches the method of claim 25, wherein the data processing system is a front-end server of a banking system, wherein the remote computer comprises a bank ATM from which the business service request is received by the data processing system, and wherein the counterpart processing system is a server in a banking agency (see Col. 1, Lines 18-38).”

In response, Appellant that if the bank’s main computer represents the claimed data processing system in Freund, col. 1, lines 18-38, then Freund, col. 1, lines 18-38 would teach the feature of “wherein the data processing system is a front-end server of a banking system, wherein the remote computer comprises a bank ATM from which the business service request is received by the data processing system”. However, Freund, col. 1, lines 18-38 does not teach the feature of “wherein the counterpart processing system is a server in a banking agency”.

Therefore, Freund does not anticipate claim 37.

SUMMARY

In summary, Appellant respectfully requests reversal of the August 10, 2007 Office Action rejection of claims 25 and 37.

Respectfully submitted,

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APPENDIX A - CLAIMS ON APPEAL

25. A data processing method for managing transactions, comprising:

 providing at least one resource manager (RM) for managing changes to respective system resources of a data processing system;

 providing a resource manager coordinator (RMC) for coordinating commit-backout activities of the at least one resource manager, said resource manager coordinator (RMC) being hosted by the data processing system;

 receiving, by the data processing system, a business service request from a remote computer system to perform a task, said task comprising both compliant processes complying

with a commit/backout protocol and non-compliant processes not complying with a commit/backout protocol, said compliant processes running on the data processing system and said non-compliant processes running on a counterpart processing system that is coupled to the data processing system by a labile link;

providing at least one extended resource manager (ERM) comprised by the data processing system for managing an execution and compensation of the task, said resource manager coordinator (RMC) being adapted to coordinate compensation services of the at least one extended resource manager (ERM);

determining by the at least one extended resource manager (ERM), upon receipt of a backout request resulting from the execution of the compliant processes running on the data processing system and the non-compliant processes running on the counterpart processing system, compensation actions to transform the system resources into a mutually consistent state that differs from an initially consistent state of the system resources that existed prior to the execution of the non-compliant processes, wherein changes to the system resources resulting from the execution of the non-compliant processes transform the system resources into a mutually inconsistent state, and wherein the changes to the system resources resulting from the execution of the non-compliant processes cannot be backed out to transform the system resources from the mutually inconsistent state to the initially consistent state due to the labile link and associated communication problems between the data processing system and the counterpart processing system;

recording information, by an information recording service, concerning the compensation

actions performed during the execution of the non-compliant processes;

determining, by the extended resource manager (ERM), the compensation actions on the basis of the information recorded by the information recording service;

backing out the changes to the system resources resulting from execution of the compliant processes before performing the compensation actions, resulting in generation of misaligned logically-correlated data associated with the task;

after completion of said backing out and before performing the compensation actions, rendering the misaligned logically-correlated data public to other tasks; and

performing the compensation actions after said rendering the temporarily misaligned logically-correlated data public to other tasks.

37. The method of claim 25, wherein the data processing system is a front-end server of a banking system, wherein the remote computer comprises a bank ATM from which the business service request is received by the data processing system, and wherein the counterpart processing system is a server in a banking agency.

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APPENDIX B - EVIDENCE

There is no evidence entered by the Examiner and relied upon by Appellant in this appeal.

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APPENDIX C - RELATED PROCEEDINGS

There are no proceedings identified in the "Related Appeals and Interferences" section.